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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/537,652

02/27/2006

Pol Jean-Marie Robert Thiry

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07/05/2006

EGBERT LAW OFFICES  
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EXAMINER

KILKENNY, PATRICK J

ART UNIT

PAPER NUMBER

3732

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/537,652

Applicant(s)

THIRY, POL JEAN-MARIE  
ROBERT

Examiner

Patrick J. Kilkenny

Art Unit

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 27 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/16/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 9/16/2005 is noted. The submission is in compliance with the provisions of 37 CFR 1.97 and 1.98. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Rejections - 35 USC § 112***

Claims 2-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-8 are dependent claims that further limit a "method for making a metallic wire according to claim 1," when said method was never positively recited in claim 1.

### ***Claim Rejections - 35 USC § 103***

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farzin-Nia et al. (5,816,801) in view of Yamazaki (5,665,210). Farzin-Nia et al. disclose

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a method of making a orthodontic appliance, which may be any device adhered directly or indirectly to a tooth, for the purpose of moving, aligning, or fixing the positions of the teeth (i.e. an orthodontic wire)(Column 3, lines 25-32). The appliance is made in a manner that reduces the dynamic coefficient of friction (Column 2, lines 1-6). Generally, it is disclosed that the device is made of a titanium alloy and that a ceramic such as titanium nitride (TiN and T<sub>2</sub>N) is implanted on the surface of the titanium alloy (Column 2, lines 39-55). This may be done by methods such as plasma deposition, sputtering, ion beam implantation, chemical vapor deposition (done under 450°C), physical vapor deposition, or reaction with inert or oxidative gasses (Column 2, lines 39-55). It is known in the art that these methods also utilize a slow cooling phase. Farzin-Nia et al. does not disclose that the specific titanium alloy is titanium-molybdenum. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use titanium-molybdenum as the specific titanium alloy, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Furthermore, the applicant discloses within the background of the specification that titanium-molybdenum wires are commonly used, commercially available, and commonly called "beta-titanium."

Farzin-Nia et al. also does not disclose the specific parameters of the methods of titanium nitride deposition such as temperature, working in a vacuum, utilizing both nitrogen and argon, the proportions of the gases, the time of the treatment, and the time of the cooling. However, despite the lack of specific parameters in Farzin-Nia, the

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examiner takes the position that the various ion deposition methods cited in Farzin-Nia generally encompass the methods of deposition currently claimed. Furthermore, it is also well known in the art of ion deposition and metallic coating, that these methods are also commonly utilized in semi-conductor preparation. Yamazaki discloses a method of titanium nitride deposition on a semi-conductor by utilizing a sputtering device that first creates a vacuum, then uses cold plasma techniques and introduces two gases, nitrogen and argon, and increases the temperature to 200°C (Column 6, lines 40-47). It is inherent that the proportions of nitrogen and argon that are used are adapted to the volume of the enclosure and each proportion ensures proper disposition results. Therefore, it would have been obvious to use the specific parameters of Yamazaki in the methods of Farzin-Nia, since the general methods are disclosed in Farzin-Nia and the end product goal is the same.

Farzin-Nia in view of Yamazaki does not disclose the specific time limits during the depassivation and nitriding phases. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the specific times of 45 minutes and 200 minutes for the two phase deposition method, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

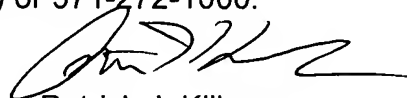
### **Conclusion**

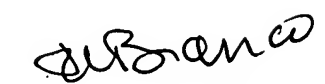
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached PTO-892 for prior art of reference. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Kilkenny whose telephone number is (571) 272-8684. The examiner can normally be reached on Mon-Fri, 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Bianco can be reached on (571) 272-4940. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
PJK

  
Patrick J. Kilkenny  
Art Unit 3732  
June 23, 2006  
6/23/06

  
PATRICIA BIANCO  
PRIMARY EXAMINER  
6/24/06